FUNCTION INJECTOR

ABSTRACT OF THE DISCLOSURE

An original function or method in a machine-readable software component, such as

5   function in an executable file, is instrumented regardless of whether the function is embedded

within the machine-readable software component or an imported function residing in another

DLL. When a call to an original function is instrumented, the entry point of the function and

the identity of the function are stored in the machine-readable software component. A

function lookup table is used for storing the identity and location of the original function.

10   Storing the information enables a user-supplied function, that is called in substitute for the

original function, to retrieve or lookup, the location of the original function, using the name of

the original function as a key, and then call the original function.   As a result, the user-

supplied function acts as a wrapper of the original function and enables fault simulation code

to control the execution of the original function. STUB for imported function

15   Furthermore, a master lookup table that is created at initialization of an injector

runtime library, identifies the location of the function lookup table using the base address of

the instrumented executable file. This enables the function lookup table for each instrumented

executable file to be located, and then searched to identify the location of an instrumented

function with the instrumented executable file.

20